

or your best estimate of the GWP based on the information described in § 98.123(c)(1)(vi)(A)(3). Use of quantitative structure activity relationships (QSARs) is an acceptable method for determining GWPs in situations where pure standards of the “target” fluorinated GHG are not available, the “target” fluorinated GHG cannot be isolated from gas streams, and FTIR spectra for the impurities are not available.

(i) If you choose to use a default GWP rather than your best estimate of the GWP for fluorinated GHGs whose GWPs are not listed in Table A-1 of Subpart A of this part, use a default GWP of 10,000 for fluorinated GHGs that are fully fluorinated GHGs and use a default GWP of 2000 for other fluorinated GHGs.

(ii) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO<sub>2</sub>e, that were calculated using the default GWP of 2000.

(iii) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO<sub>2</sub>e, that were calculated using the default GWP of 10,000.

(iv) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO<sub>2</sub>e, that were calculated using your best estimate of the GWP.

[75 FR 74831, Dec. 1, 2010, as amended at 77 FR 51489, Aug. 24, 2012; 78 FR 71954, Nov. 29, 2013]

#### § 98.127 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the dated records specified in paragraphs (a) through (k) of this section, as applicable.

(a) *Process information records.* (1) Identify all products and processes subject to this subpart. Include the unit identification as appropriate.

(2) Monthly and annual records, as applicable, of all analyses and calculations conducted as required under § 98.123, including the data monitored under § 98.124, and all information reported as required and § 98.126.

(b) *Scoping speciation.* Retain records documenting the information reported under § 98.126(a)(3) and (4).

(c) *Mass-balance method.* Retain the following records for each process for which the mass-balance method was used to estimate emissions. If you use an element other than fluorine in the mass-balance equation pursuant to § 98.123(b)(3), substitute that element for fluorine in the recordkeeping requirements of this paragraph.

(1) The data and calculations used to estimate the absolute and relative errors associated with use of the mass-balance approach.

(2) The data and calculations used to estimate the mass of fluorine emitted from the process.

(3) The data and calculations used to determine the fractions of the mass emitted consisting of each reactant (FER<sub>a</sub>), product (FEP), and by-product (FEB<sub>x</sub>), including the preliminary calculations in § 98.123(b)(8)(i).

(d) *Emission factor and emission calculation factor method.* Retain the following records for each process for which the emission factor or emission calculation factor method was used to estimate emissions.

(1) Identify all continuous process vents with emissions of fluorinated GHGs that are less than 10,000 metric tons CO<sub>2</sub>e per year and all continuous process vents with emissions of 10,000 metric tons CO<sub>2</sub>e per year or more. Include the data and calculation used to develop the preliminary estimate of emissions for each process vent.

(2) Identify all batch process vents.

(3) For each vent, identify the method used to develop the factor (i.e., emission factor by emissions test or emission calculation factor).

(4) The emissions test data and reports (see § 98.124(c)(5)) and the calculations used to determine the process-vent-specific emission factor, including the actual process-vent-specific emission factor, the average hourly emission rate of each fluorinated GHG from the process vent during the test and the process feed rate, process production rate, or other process activity rate during the test.

(5) The process-vent-specific emission calculation factor and the calculations

used to determine the process-vent-specific emission calculation factor.

(6) The annual process production quantity or other process activity information in the appropriate units, along with the dates and time period during which the process was operating and dates and time periods the process vents are vented to the destruction device. As an alternative to date and time periods when process vents are vented to the destruction device, a facility may track dates and time periods that process vents by-pass the destruction device.

(7) Calculations used to determine annual emissions of each fluorinated GHG for each process and the total fluorinated GHG emissions for all processes, i.e., total for facility.

(e) *Destruction efficiency testing.* A fluorinated GHG production facility that destroys fluorinated GHGs and reflects this destruction in § 98.123 must retain the emissions performance testing reports (including revised reports) for each destruction device. The emissions performance testing report must contain all information and data used to derive the destruction efficiency for each fluorinated GHG whose destruction the facility reflects in § 98.123, as well as the key process and device conditions during the test. This information includes the following:

(1) Destruction efficiency (DE) determined for each fluorinated GHG whose destruction the facility reflects in § 98.123, in accordance with § 98.124(g)(1)(i) through (iv).

(2) Chemical identity of the fluorinated GHG(s) used in the performance test conducted to determine destruction efficiency, including surrogates, and information on why the surrogate is sufficient to demonstrate destruction efficiency for each fluorinated GHG, consistent with requirements in § 98.124(g)(1)(i) through (iv), vented to the destruction device.

(3) Mass flow rate of the stream containing the fluorinated GHG(s) or surrogate into the device during the test.

(4) Concentration (mass fraction) of each fluorinated GHG or surrogate in the stream flowing into the device during the test.

(5) Concentration (mass fraction) of each fluorinated GHG or surrogate at

the outlet of the destruction device during the test.

(6) Mass flow rate at the outlet of the destruction device during the test.

(7) Test methods and analytical methods used to determine the mass flow rates and fluorinated GHG (or surrogate) concentrations of the streams flowing into and out of the destruction device during the test.

(8) Destruction device conditions that are normally monitored for device control, such as temperature, total mass flow rates into the device, and CO or O<sub>2</sub> levels.

(9) Name of all applicable Federal or State regulations that may apply to the destruction process.

(f) *Equipment leak records.* If you are subject to § 98.123(d) of this subpart, you must maintain information on the number of each type of equipment; the service of each piece of equipment (gas, light liquid, heavy liquid); the concentration of each fluorinated GHG in the stream; each piece of equipment excluded from monitoring requirement; the time period each piece of equipment was in service, and the emission calculations for each fluorinated GHG for all processes. Depending on which equipment leak monitoring approach you follow, you must maintain information for equipment on the associated screening data concentrations for greater than or equal to 10,000 ppmv and associated screening data concentrations for less than 10,000 ppmv; associated actual screening data concentrations; and associated screening data and leak rate data (i.e., bagging) used to develop a unit-specific correlation. If you developed and follow a site-specific leak detection approach, provide the records for monitoring events and the emissions estimation calculations, as appropriate, consistent with the approach for equipment leak emission estimation in your GHG Monitoring Plan.

(g) *Container heel records.* If you vent residual fluorinated GHGs from containers, maintain the following records of the measurements and calculations used to estimate emissions of residual fluorinated GHGs from containers.

(i) If you measure the contents of each container, maintain records of

these measurements and the calculations used to estimate emissions of each fluorinated GHG from each container size and type.

(ii) If you develop and apply container heel factors to estimate emissions, maintain records of the measurements and calculations used to develop the heel factor for each fluorinated GHG and each container size and type and of the number of containers of each fluorinated GHG and of each container size and type returned to your facility.

(h) *Missing data records.* Where missing data have been estimated pursuant to § 98.125, you must record the reason the data were missing, the length of time the data were missing, the method used to estimate the missing data, and the estimates of those data.

(i) *All facilities.* Dated records documenting the initial and periodic calibration of all analytical equipment used to determine the concentration of fluorinated GHGs, including but not limited to gas chromatographs, gas chromatography-mass spectrometry (GC/MS), gas chromatograph-electron capture detector (GC/ECD), fourier transform infrared (FTIR), and nuclear magnetic resonance (NMR) devices, and all mass measurement equipment such as weigh scales, flowmeters, and volumetric and density measures used to measure the quantities reported under this subpart, including the industry standards or manufacturer directions used for calibration pursuant to § 98.124(e), (f), (g), (m), and (n).

(j) GHG Monitoring Plans, as described in § 98.3(g)(5), must be completed by April 1, 2011.

(k) For fluorinated GHGs whose GWPs are not listed in Table A-1 to subpart A of this part, maintain records of the GWPs used to calculate facility-wide CO<sub>2</sub>e emissions under § 98.127(j). Where you used your best estimate of the GWP, maintain records of the data and analysis used to develop that GWP, including the data elements at § 98.123(c)(1)(vi)(A)(1) through (3). If you have used QSARs to estimate the GWP, include information documenting the level of accuracy of the QSAR-derived GWP, including information on how the structure of the “target” fluorinated GHG is similar to the structures of the fluorinated GHGs

used to model the radiative forcing and/or reaction rate of the “target” fluorinated GHG, the quality and quantity of the measurements of the radiative forcings and/or reaction rates of the fluorinated GHGs used to model these parameters for the “target” fluorinated GHG, any estimated uncertainties of the modeled forcings and/or reaction rates, and descriptions and results of any efforts to validate the QSAR model(s).

[75 FR 74831, Dec. 1, 2010, as amended at 77 FR 51490, Aug. 24, 2012]

#### § 98.128 Definitions.

Except as provided in this section, all of the terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part. If a conflict exists between a definition provided in this subpart and a definition provided in subpart A, the definition in this subpart shall take precedence for the reporting requirements in this subpart.

*Batch process or batch operation* means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the batch operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

*Batch emission episode* means a discrete venting episode associated with a vessel in a process; a vessel may have more than one batch emission episode. For example, a displacement of vapor resulting from the charging of a vessel with a feed material will result in a discrete emission episode that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete emission episode resulting from the expulsion of expanded vapor. Other emission episodes also may occur from the same vessel and other vessels in the process, depending on process operations.

*By-product* means a chemical that is produced coincidentally during the production of another chemical.